

In the claims:

Amend the claims as follows:

1. (Currently amended) A method Method for determination of stand attributes by means of a laser scanner and images, in which a point cloud with three-dimensional information about the target points and describing the stand is produced by means of a laser scanner, comprising: characterized in that
5 a) overlapping images are produced by aerial or terrestrial photography,
10 b) a denser point cloud with more target points with three-dimensional information is produced by densifying the point cloud produced by the laser scanner with information from the overlapping images produced by the aerial or terrestrial photography, and
15 c) determining the stand attributes ~~are determined~~ by means of the densified point cloud.
2. (Currently amended) The method according to claim 1 wherein
20 ~~Method of claim 1, characterized in that~~ after step a), the point cloud produced by laser scanning and the image information are combined to belong to the same target.
3. (Currently amended) The method according to claim 1 wherein
25 ~~Method of claim 1, characterized in that~~ the three-dimensional information of the point cloud produced by means of a laser scanner is formed of three-dimensional coordinates for the target points.
- 30 4. (Currently amended) The method according to claim 1 wherein
~~Method of claims 1-3, characterized in that~~ for step c), the points measured from the surface of the terrain and the points measured above the surface of the terrain are distinguished from the point cloud produced by laser scanning, and three-

dimensional points are added close to those points that are produced by a laser scanner and that correspond to points measured above the surface of the terrain.

5 5. (Currently amended) The method according to claim 1 wherein
~~Method of claims 1-4, characterized in that~~ in order to
determine three-dimensional coordinates for the target points
the data achieved from the laser measurements and the image
information of the aerial photography are calculated into the
10 same coordination system.

15 6. (Currently amended) The method according to claim 1 wherein
~~Method of claims 1-5, characterized in that~~ in step b), the
three-dimensional target coordinates of the additional points
are determined from the overlapping images produced by aerial
photography by means of photogrammetric methods.

20 7. (Currently amended) The method according to claim 1 wherein
~~Method of any of claims 1-6, characterized in~~
that step c) is performed by means of a pattern recognition
method, by determination of models describing the crowns of
the stand and the terrain, or by means of coordinate
information.

25 8. (Currently amended) The method according to claim 1 wherein
~~Method of any of claims 1-7, characterized in that~~ such a
number of target points is applied that individual trees and
groups of trees are discriminated.

30 9. (Currently amended) The method according to claim 1 wherein
~~Method of any of claims 1-8, characterized in that~~ in step
a), brightness values are produced for the points in addition
to the three-dimensional coordinates by means of a camera or
spectrometry.

10. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-9, characterized in that the~~
laser scanner material used for the creation of a denser point
cloud has several pulses modes or profile data (~~full waveform~~
5 ~~data~~).

11. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-10, characterized in that a~~
three-dimensional presentation of the stand height (~~crown canopy~~
10 ~~height model~~) is achieved by calculating, from the denser
point cloud, the difference between a crown model
corresponding to the upper parts of the stand and a digital
terrain model corresponding to the surface of the terrain.

15 12. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-11, characterized in that~~
an anisotropy correction for the brightness values of
means of the denser point cloud by using a crown model created
20 by means of the denser point cloud.

13. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-12, characterized in that a~~
change in the stand can be calculated by means of denser point
25 clouds or by means of surface models corresponding to them
achieved at two different time points, the change consisting
of for instance a height or breadth growth, thinnings and
fallen trees.

30 14. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-13, characterized in that~~
the identification of individual trees or groups of trees
(~~determination of location or crown contours~~) is done by using
35 the denser point cloud, the height model, surface models,
intensity data of the laser scanning, profile data and/or

brightness values of the images by means of a known pattern recognition method.

15. (Currently amended) The method according to claim 1
5 ~~wherein Method of any of claims 1-14, characterized in that~~
the identification of individual trees or groups of trees
~~(position or centre)~~ takes place by using images and the
height for a desired tree is achieved by means of denser point
cloud material.

10 16. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-15, characterized in that~~
old inventory information, earlier images and/or laser
materials is used for evaluation or updating of stand
15 attributes.

17. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-16, characterized in that~~
the tree geometry and/or the delineation of the tree is
20 determined by means of sample points achieved inside the area
restricted by the tree either two-dimensionally ~~(cross-~~
~~section)~~ or three-dimensionally in order to identify the tree
species or for modeling of the stand.

25 18. (Currently amended) The method according to claim 1
~~wherein Method of any of claims 1-17, characterized in that~~
the attributes of individual trees or groups of trees, which
are achieved by analyzing the canopy height model, are the
location of the trees, age, height, crown diameter, crown
30 delineation, stem diameter, quality of timber wood, tree
value, basal area, crown closure percentage, development
class, tree species, stem volume, and/or stem number per area
unit and statistical attributes that ~~can~~ are be derived by
means of this information.

19. (Currently amended) The method according to claim 1
wherein ~~Method of any of claims 1-18, characterized in that~~
the stem diameter of the tree can be derived by means of the
mean diameter of the crown or the tree height and the mean
5 diameter of the crown and ~~possibly~~ by making use of rules
based on knowledge and possible for each tree species
separately.

10 20. (Currently amended) The method according to claim 18
wherein ~~Method of claim 18, characterized in that the stem~~
number is determined as a number of crowns determined from a
image or point cloud.

15 21. (Currently amended) The method according to claim 1
wherein ~~Method of any of claims 1-18, characterized in that~~
the crown coverage percentage is defined as the relation
between the area covered by the crowns and the whole surface.

20 22. (Currently amended) The method according to claim 1
wherein ~~Method of any of claims 1-21, characterized in that in~~
addition to attributes of individual trees or groups of trees
and statistical data for these, also a stem number and the
crown coverage percentage of a stand that ~~can be~~ is seen from
above, are defined for a larger tree group, and this
25 information ~~can be~~ is used in the estimation of attributes for
sample plots and stands.

30 23. (Currently amended) The method according to claim 1
wherein ~~Method of any of claims 1-22, characterized in that~~
the stand volume is completely or partly defined by means of
the mean height of the stand and the crown coverage
percentage, ~~(the crown part of the total area)/basal area.~~

35 24. (Currently amended) The method according to claim 1
wherein ~~Method of any of claims 1-23, characterized in that~~

the definition of stand attributes is performed by means of a computer program.

25. (Currently amended) A computer ~~Computer~~ program for the determination of stand attributes from information achieved by means of a laser scanner and images and in which there is produced a point cloud with three-dimensional information about the target points and describing the stand, comprising: ~~characterized in that~~ with the program,

a) there is produced a denser point cloud with more target points and three-dimensional information by densifying the point cloud produced by the laser scanner with information from overlapping images produced by aerial photography, and

b) the stand attributes are determined by means of the denser point cloud.

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26. (Canceled)